

REMARKS

None of the claims have been amended or cancelled. Claims 1-20 are pending and under consideration. Claims 1, 13 and 18 are the independent claims. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 1-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Izumi (U.S. Patent No. 6,778,475).

Regarding the rejection of independent claim 1, it is noted that claim 1 recites a photodetector for, when light emitted from a two-wavelength light source is divided into at least three light components to be reflected by an optical recording medium, detecting the reflected light components, the photodetector comprising: a first detector divided into eight sections detecting the at least three light components reflected by the optical recording medium to convert the light components into a first set of electrical signals; a first calculating portion calculating a first tracking error signal from the first set of electrical signals converted by the first detector by a differential push-pull method; a second calculating portion calculating a first focusing error signal by an astigmatism method and calculating a second tracking error signal by a differential phase detection method from the first set of electrical signals converted by the first detector; a second detector divided into four sections detecting the at least three light components reflected by the optical recording medium to convert the at least three light components into a second set of electrical signals; and a third calculating portion calculating a second focusing error signal by the astigmatism method and calculating a third tracking error signal by the differential phase detection method from the second set of electrical signals converted by the second detector.

The Office Action relies on Izumi for a teaching of the features of independent claim 1. In particular, the Office Action relies on elements 55, 56 and 57 illustrated in Fig. 9 of Izumi, for a teaching of a first calculating portion calculating a first tracking error signal from the first set of electrical signals converted by the first detector by a differential push-pull method.

The Office Action also relies on elements 52, 53, 54 and 77 illustrated in Fig. 9 of Izumi, for a teaching of a second calculating portion calculating a second tracking error signal by a

differential phase detection method from the first set of electrical signals converted by the first detector. However, Applicants respectfully assert that Izumi neither teaches nor suggests this novel feature for at least the following reason.

Initially and foremost, it is noted that the Office Action relies on the same tracking error signal for a teaching of a first tracking error signal and for a teaching of a second tracking error signal.

As noted in Izumi, elements 52, 53 and 54, relied for a teaching of the second calculating portion, provide a signal corresponding to the focus error signal of the light spot on the disc detected by an astigmatism method (column 15, lines 39-41). It is also noted that the differential phase detection circuit 77, also relied for a teaching of the second calculating portion, outputs a signal used to detect a tracking error signal of the light spot on the disc using a differential phase detection method (column 15, lines 48-51). In other words, the differential phase detection circuit 77 only provides a signal for the calculation of the tracking error signal.

However, Applicants respectfully note that this tracking error signal does not correspond to a second tracking error signal, as recited in independent claim 1. Rather, this tracking error signal corresponds to the first tracking error signal. As noted in Fig. 9 of Izumi and page 2 of the Office Action, the first tracking error signal is calculated using the output signal of elements 55-57. Furthermore, Applicants note that the first tracking error signal also utilizes the output of the differential phase detection circuit 77. Therefore, the second calculating portion simply provides the signal for calculating the first tracking error signal. Therefore, Izumi fails to teach or suggest, at least, this novel feature of independent claim 1.

Furthermore, it is noted that independent claim 1 recites a first detector divided into eight sections detecting the at least three light components reflected by the optical recording medium to convert the light components into a first set of electrical signals, and a second detector divided into four sections detecting the at least three light components reflected by the optical recording medium to convert the at least three light components into a second set of electrical signals. Izumi, on the other hand, discloses the detectors which are divided into twelve sections and 8 sections, respectively. Accordingly, Applicants respectfully assert that Izumi fails to teach or suggest this other novel feature of independent claim 1.

Regarding the rejection of independent claim 13 it is noted that this claim recites some substantially similar features as claim 1. Thus, the rejection of this claim is also traversed for

similar reasons as set forth above.

Regarding the rejection of independent claim 18, it is noted that claim 18 recites a photodetector comprising: a first detector detecting components reflected from an optical recording medium and a beam splitter and converting the reflected light components into a first set of electrical signals; and a second detector detecting the light components reflected from the optical recording medium and the beam splitter and converting the reflected light components into a second set of electrical signals, wherein a center of the first detector is separated from a center of the second detector by a predetermined distance proportional to a thickness of the beam splitter.

The Office Action recognizes that Izumi does not teach that the center of the first detector is separated from a center of the second detector by a predetermined distance proportional to a thickness of the beam splitter. However, the Office Action states that Figs. 10 and 11 illustrate that the detectors are separated by a predetermined distance and cites column 17, lines 60 for such teachings.

Initially, Applicants note that the reference at column 17, line 60 makes no reference or suggestion of the detectors being separated by a predetermined distance. Izumi simply states that DVD detection light spots are applied to the light reception areas at predetermined positions and that CD detection light spots are applied to other light reception areas at predetermined positions. In other words, Izumi simply teaches the positions of the reception areas where the light spots are applied. Accordingly, Izumi makes no reference or suggestion that the detectors are separated by a predetermined distance.

The Office Action also states that although Izumi fails to teach that the predetermined distance is in consideration of the beam splitter's thickness, it would have been obvious to calculate said predetermined distance, since the beam splitter is on the transmission path between the optical storage medium and the detection plane.

Initially, Applicants note that although the Examiner provides a reasoning why the detectors must be separated by a predetermined distance, the Applicant provides no support for such statement. As a matter of fact, it appears that the motivation or suggestion for separating the detectors by a predetermined distance proportional to the thickness of the beam splitter is found in Applicants' own specification, in particular in paragraph [0025]. Therefore, Izumi fails to teach or suggest this novel feature or independent claim 18.

Accordingly, Applicants respectfully assert that that Izumi fails to teach or suggest the novel features of independent claims 1, 13 and 18, and therefore respectfully request that the rejection of independent claims 1, 13 and 18 under 35 U.S.C. §103(a) be withdrawn.

Regarding the rejection of claims 2-12, 14-17, 19 and 20, it is noted that these claims depend from independent claims 1, 13 and 18 and as noted above, Izumi fails to teach or suggest the novel features of the independent claims. Therefore, Applicants respectfully assert that the rejection of dependent claims 2-12, 14-17, 19 and 20 under 35 U.S.C. §103(a) be withdrawn, at least because of their dependency from claims 1, 13 and 18, and because the dependent claims include additional features which are not taught or suggested by the prior art.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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